

Prospectus Supplement No. 8
(To Prospectus dated September 29, 2022)



SENTI BIOSCIENCES, INC.

Up to 8,727,049 Shares of Common Stock

This prospectus supplement no. 8 (this “Prospectus Supplement”) amends and supplements the prospectus dated September 29, 2022 (as supplemented or amended from time to time, the “Prospectus”) which forms part of our Registration Statement on Form S-1 (Registration Statement No. 333-267390). This Prospectus Supplement is being filed to update and supplement the information included or incorporated by reference in the Prospectus with the information contained in our Current Report on Form 8-K, filed with the Securities and Exchange Commission (the “SEC”) on August 10, 2023 (the “Form 8-K”). Accordingly, we have attached the Form 8-K to this Prospectus Supplement.

This Prospectus Supplement updates and supplements the information in the Prospectus and is not complete without, and may not be delivered or utilized except in combination with, the Prospectus, including any amendments or supplements thereto. This Prospectus Supplement should be read in conjunction with the Prospectus, and if there is any inconsistency between the information in the Prospectus and this Prospectus Supplement, you should rely on this Prospectus Supplement.

Our common stock is listed on The Nasdaq Global Market (“Nasdaq”) under the symbol “SNTI”. On August 9, 2023, the last quoted sale price for the Senti Common Shares as reported on Nasdaq was \$0.81 per share.

We are an “emerging growth company” under applicable federal securities laws and will be subject to reduced public company reporting requirements.

Investing in our securities involves a high degree of risk. Before buying any securities, you should carefully read the discussion of the risks of investing in our securities in “Risk Factors” beginning on page 8 of the Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under the Prospectus or determined if the Prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this Prospectus Supplement is August 10, 2023.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 8-K

**CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): August 10, 2023

SENTI BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-40440
(Commission
File Number)

86-2437900
(IRS Employer
Identification No.)

**2 Corporate Drive, First Floor
South San Francisco, California 94080**
(Address of principal executive offices including zip code)

Registrant's telephone number, including area code: (650) 382-3281

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value \$0.0001 per share	SNTI	The Nasdaq Global Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 1.01 Entry into a Material Definitive Agreement.

Framework Agreement

On August 7, 2023, Senti Biosciences, Inc. (the “**Company**”) entered into a framework agreement (the “**Agreement**”) with GeneFab, LLC, a Delaware limited liability company (“**GeneFab**”), and Valere Bio, Inc., a Delaware corporation and the parent company of GeneFab (“**Valere**”), which is wholly owned by a company managed by Celadon Partners, LLC, pursuant to which the Company, subject to the terms and conditions therein, (i) sold, assigned and transferred its rights, title and interest in certain of the assets and contractual rights to GeneFab, including all of Company’s equipment and leasehold improvements at the Company’s facilities in Alameda, California (the “**Alameda Facility**”) and certain of the Company’s intellectual property related to the schematics for and design of the Alameda Facility, and (ii) subleased to GeneFab its premises under the lease for the Alameda Facility (a portion of which is subject to the satisfaction of certain conditions) (collectively, the “**Purchased Assets**”). In addition, the Company agreed to grant a license to GeneFab under certain of its intellectual property rights to conduct manufacturing services and to research, develop, manufacture and commercialize products outside of oncology, pursuant to a license agreement under negotiation (the “**License Agreement**”).

Pursuant to the Agreement, Company sold the Purchased Assets, and consummated, or will consummate, the other transactions contemplated thereby, for total consideration of \$37.8 million in cash (of which the amounts payable at closing of the transactions contemplated by the Agreement shall be subject to certain offsets against the advance payment under the DMSA (as defined below)) (the “**Cash Consideration**”) and the grant of the Seller Economic Share (as defined below) by Valere. Fifty percent of the Cash Consideration was paid at closing and the remainder will become due and payable (subject to satisfaction of certain conditions) by GeneFab on or before December 31, 2024 (the “**Deferred Consideration**”), unless the Company elects to receive up to two early payments of a portion of the Deferred Consideration prior to December 31, 2024, in which case the remaining portion of the unpaid Deferred Consideration will become due and payable on December 31, 2025. In connection with the purchase of the assets and rights related to the Alameda Facility, GeneFab also intends to extend offers of employment to approximately 46 of the Company’s employees currently employed in its research and development, manufacturing, and quality functions. The Agreement contains representations, warranties and covenants of the Company, GeneFab and Valere that are customary for a transaction of this nature.

Seller Economic Share Agreement

In connection with the Agreement, the Company, GeneFab and Valere entered into a seller economic share agreement (the “**SESA**”), pursuant to which the Company will be entitled to receive ten percent of the realized gains of Valere arising and resulting from any cash or in-kind distributions from GeneFab in connection with the dividend or sale event, subject to the terms and conditions of the SESA.

Development and Manufacturing Services Agreement

In connection with the Agreement, the Company and GeneFab entered into a development and manufacturing services agreement (the “**DMSA**”), pursuant to which GeneFab will provide to the Company certain research, development, and manufacturing services. Subject to GeneFab’s meeting of certain criteria, the Company and its licensees will be obligated to engage GeneFab for certain services. The Company made an advance payment to GeneFab of \$18.9 million for such services and received a credit of \$8 million from GeneFab to be applied to a portion of the future invoices for such services. Each party may terminate the DMSA for the other party’s uncured material breach of the DMSA, or for insolvency events or for certain technical events. In addition, the Company may terminate the DMSA if GeneFab fails to pay any Deferred Consideration.

Option Agreement

In connection with the Agreement, the Company and GeneFab also entered into a letter agreement (the “**Option Agreement**”), pursuant to which GeneFab has the right to invest up to approximately \$20 million to purchase up to 19,633,444 shares of the common stock of the Company, subject to approval by the Company’s stockholders to the extent required pursuant to applicable Nasdaq rules, at a price of \$1.01867 per share in private placements in up to ten installments (the “**Option**”). Pursuant to the Option Agreement and applicable Nasdaq rules, in no event may the Company issue shares of common stock under the Option Agreement equal to more than 19.99% of the shares of common stock outstanding immediately prior to the execution of the Option Agreement (the “**Exchange Cap**”) unless the Company obtains stockholder approval to issue shares of common stock in excess of the Exchange Cap in accordance with applicable Nasdaq rules. The Option is exercisable for a period of 36 months following the execution of the License Agreement. Pursuant to the Option Agreement, the Company also agreed to register all the shares of common stock purchased by GeneFab under the Option Agreement for resale by filing up to four registration statements, subject to certain conditions

and restrictions contained in the Option Agreement. The Company will have the right to immediately terminate the Option Agreement at any time if GeneFab fails to pay any Deferred Consideration.

The foregoing descriptions of the Agreement, the SESA, the DMSA and the Option Agreement do not purport to be complete and are each qualified in their entirety by the terms and conditions of the Agreement, the SESA, the DMSA and the Option Agreement, respectively, copies of which will be filed as exhibits to the Company's Quarterly Report on Form 10-Q for the period ending September 30, 2023.

Item 2.01 Completion of Acquisition or Disposition of Assets.

On August 7, 2023, the Company completed the sale of certain assets to GeneFab and Valere and the transactions contemplated by the Framework Agreement described in Item 1.01 of this current report on Form 8-K.

Item 3.02 Unregistered Sales of Equity Securities.

The information contained above under Item 1.01 to the extent applicable is hereby incorporated by reference herein. The shares of common stock of the Company issuable pursuant to the Option Agreement will be issued and sold by the Company in reliance upon the exemption from the registration requirements of the Securities Act of 1933, as amended, afforded by Section 4(a)(2) thereof.

Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

(b)

On August 7, 2023, Philip Lee, Ph.D., the Company's Chief Technology Officer, notified the Company of his resignation as an employee and as Chief Technology Officer of the Company, effective on August 7, 2023, to join GeneFab as its Chief Executive Officer. Dr. Lee's resignation was not the result of any disagreement with the Company on any matter relating to the Company's operations, policies or practices.

Item 8.01 Other events.

On August 10, 2023, the Company issued a press release announcing the transaction. A copy of the press release is filed as Exhibit 99.1 hereto and incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press Release, dated August 10, 2023
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

SENTI BIOSCIENCES, INC.

Date: August 10, 2023

By: /s/ Timothy Lu
Name: Timothy Lu, M.D., Ph.D.
Title: Chief Executive Officer & President